

Z88 EPROM

JULY/AUGUST 1989

VOL.3 NO.4

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The Z88 Users' Club Magazine

Club Addresses

All articles for **Z88 EPROM** and any other correspondence (**except** Software Library) should be sent to:

Z88 USERS' CLUB

68 WELLINGTON STREET

LONG EATON

NOTTINGHAM

NG10 4NG

All requests for software from the Club Software Library, (**but not** special offers), items for inclusion in the Library, and EPROMs for erasure should be sent to:

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Z88 USERS' CLUB

3/8 JENNER ROAD

GUILDFORD

SURREY

GU1 3PL

ALWAYS include your Membership Number with any correspondence. This is not just to be awkward - now the Club is growing it can be very time-consuming searching the database for a member's number. Your number is printed on the address label of each issue of **Z88 EPROM**. Please be sure to enclose a stamped-addressed envelope with anything needing a reply.

Editorial

Here we are again, this time with the new look **Z88 EPROM**, printed using a desktop publishing system. This issue is actually the twelfth one I have produced, which must mean that the Club is approaching its second birthday - how time flies!

For those of you interested in the mechanics of the new method of producing the magazine, here is a short description:

As before, I write the text for **Z88 EPROM** on my trusty Z88 (what else!), also loading in any contributions sent in by members on EPROM. (The old method effectively finished here, with the text of a complete issue printed directly from the Z88 to produce the camera-ready artwork required by the printer.)

When complete, the text is transferred over to my Amstrad PC1640 using PC Link II, and also using this program the file is translated from PipeDream format to Wordstar format. The Wordstar file is then imported into the desktop publishing program (Timeworks DTP) where the final layout is sorted out.

When the layout is complete, and there is enough text to fill the required number of pages, the file is printed out on a Hewlett-Packard LaserJet II laser printer, to produce the near-typeset quality you see before you. Each page is then checked before being pasted up with opposite pages ready to send to the printer.

The whole process is obviously rather more time consuming than the old method, but I hope you agree that the result is worthwhile.

You will also notice that I have changed the format of the page numbers - this now shows the volume number, issue number, and then page number. The idea behind this is to make it easier to find articles when working with the annual index (which will be published at the end of the year). The idea came from someone who attended the Club Workshop, but I can't remember who!

This issue (apart from the cover) is also printed on re-cycled paper, in order to do our bit for the forests of the world.

Thanks to all of you who took the time to return the Readers' Survey from the last issue. At the time of writing, still a couple of weeks to go before the closing date, it looks as though the returns will top 400, or more than 20% of those sent out, not bad when you consider that I had been told to expect somewhere between 5 and 10%! Because there are still surveys being returned, I cannot yet fully analyse the results and present them to you, that will be something to look forward to in the next issue. The one thing that the survey has definitely told me is that you cannot please all of the people all of the time! It would certainly seem that what one element of you want to see more of, an equal element find boring, and vice-versa.

The ten winners in the Lucky Draw were drawn out on the 25th June, just in time to slip their names into the back of this issue - see the Stop Press

section right at the end of this issue.

One thing that was immediately evident from the survey returns was that many of you want binders to keep your copies of **Z88 EPROM** together and in pristine condition. I had been thinking of getting some binders made for some time, but because of the expense of ordering a large quantity of binders I had delayed this. The Survey has now prompted me to order these, and by the time you read this they should have arrived here ready to sell. See the ad for the new binders later in this issue.

One of the other comments that kept cropping up in the survey was regarding satellite TV - or the inclusion of it in **Z88 EPROM**. It would appear that I seriously misjudged the general interest in the CCL satellite equipment, despite the obvious connection of Clive Sinclair. Many of you made the comment that this was irrelevant in a computer magazine, something which on reflection I must agree with. While there was also an element who wanted more information on the subject, I feel that I should apologise to those of you who complained. Rest assured that there will be no further mention of satellite TV in future issues.

In order to satisfy those of you who **do** want to know about satellite TV, I will be doing a one-off satellite special issue which you may buy if you wish. See elsewhere in this issue for further details.

In this issue there is a review of not one but two floppy disc systems for the Z88, an article that I suspect will be of great interest to those of you who use the Z88 as your sole computer.

Also in this issue I had planned to bring you a review of the Harvester Wordchip spelling checker, comparing it with the Spellmaster chip from Computer Concepts. Unfortunately, the Wordchip Harvester sent for review (which is also the version on sale) was an absolute waste of space, simply not worth reviewing. After some critical comments were passed on to Harvester, they tell me that they are now working on a new version of the Wordchip, which will correct the problems. This version will be reviewed in the next issue.

Helpline

This is a new section, which I hope will expand as time goes on. Basically, it is a contact area where any members with particular areas of expertise may offer help to other members with problems. Depending on your personal circumstances, you might wish to help people by mail, on the 'phone, or

Does your Cambridge lose its memory in your briefcase overnight?

The Cambridge Topper eliminates those nagging doubts that beset Z88 owners ... has it turned on in my bag? ... will I have to retype all those long files? ... will the display get scratched? ... how can I clean the keyboard?

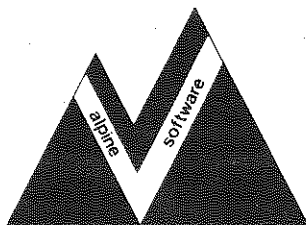
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both. This is up to the individual. If you feel you can help other members on any subject(s), please write to me at the Club Address stating your name, membership number, area(s) of help, and method(s) of contact. If you wish people to get in touch by 'phone please specify when you would like them to call, if this matters. I will then update the Helpline area in each issue, printing a full listing of people offering help. So don't be shy, get writing!

To start us off, here is our first Helpliner:

CLI Files - Contact Michael Hey by post only at: 18 Woodside Road, Sandiacre, Nottingham. NG10 4GP.

Michael is still waiting for an enormous response to his request for interesting CLI files, so get sending!

Club Special Offer - Disc-88 Disc Drive System

This new disc system for the Z88 has just been launched by XOB at a price of £255 (inc. VAT & carriage), and is given a full review later in this issue. As a special offer to members XOB will sell the system **until the 31st August** for just £240 (inc. VAT & carriage), saving members **£15** on the normal price!

To take advantage of this Special Offer, simply send your order **direct to XOB** at:

XOB, Balkeerie, Eassie, By Forfar, Angus. DD8 1SR,

enclosing your payment of £240, together with your Users' Club Membership Number, to arrive before 31st August 1989.

PLEASE DO NOT SEND ORDERS TO THE CLUB

Newslines

- **HARVESTER** have increased the price of their three Z88 packages, with effect from 1st June 1989. The rise is due to CCL increasing the price of the bulk EPROMs it sells to software houses. The new Harvester prices are: Z88 Data Organiser £54.99. Z88 Finger Organiser £44.99. Z88 Wordchip £54.99.
- **AVIATION SOFTWARE TOOLS** have released a program called

Pilots Companion. This consists of a full featured flight planner, weight and balance, check list, density, altitude and descent rate modules. All are menu driven and have built-in databases for the U.K., with Europe and U.S.A. also available. Price is £79+VAT. Further details from PEL, P.O. Box 4, Malvern, Worcs.

- **DENNIS GRONING** of Sweden has written a Z88 to ZX Spectrum import-export program. The program will only work with a Spectrum and Microdrive, and can use wildcards to back up all files if required. Further details from Dennis at : John Bryntessons vag2, S-662 03 Svanskog, Sweden.
- **CAMBRIDGE COMPUTER** have appointed a new UK Sales Manager. Roger Flack, 43, joins CCL after three years with Citizen Europe. Flack will try and boost sales of the Z88 in the UK, and also work on introducing the new satellite products to the market.

Members' Letters

Chris Fenn (0875)

4001 E. Sahara #40

Las Vegas NV 89104

USA Dear Roy, Greetings from Las Vegas!

I am enjoying my latest issue of **Z88 EPROM**, but I would like to clarify something. On pages 40-41 you mentioned some files from the **Club Z88 USA**, including one of my efforts. However files Z049 through Z059 were all **Phil Wheeler's** individual effort. While we at Club Z88 greatly value our association with Mr Wheeler and his BBS, we certainly don't want to take credit for his excellent programs.

I would also like to add that Phil personally took the initiative (and expense) to share these programs with our friends across the pond, and he alone should be given credit for this deed.

(Thanks for putting the record straight on this one Chris. If anyone would like to subscribe to the Club Z88 Pipeline magazine, the 6 issue subscription costs \$32.95 by airmail. The address is Club Z88, Time Designs, 29722 Hult Road, Colton, Oregon 97017, U.S.A. - Roy)

Keith M. Newborough (0302)

'Cedar Lodge'

Church Lane

North Thoresby

Grimsby. DN36 5QG

Dear Roy,

I am severely physically handicapped and an enthusiastic Z88 user. I am a very slow typist. Accidental keypresses are the main trouble. What I need is a keyboard guard. This is a rigid cover, with holes drilled in for each key, making it impossible for a finger to slide from from one key to another. I have a large metal one for my BBC, and I have seen a small plastic one for the Sharp Memo Writer.

I wonder if a member can tell me where to buy a similar device for my Z88. Kind regards.

(After the rather negative comments from Alastair Scott in the last Members' Letters, I thought it only fair to offer CCL the chance to put their view of things. Below is their reply, in the form of a letter from their Managing Director, Alan Boxer. - Roy)

Dear Z88 User,

When Roy suggested that I write to you, through the medium of Z88 EPROM, I jumped at the chance. It's high time that I gave you some insight into Cambridge Computer. In trying to order my thoughts for this task, I found myself thinking about Mark Twain (an obscure thought process if ever there was one!). When Associated Press erroneously recorded his death and published an obituary, he cabled from Europe, "The report of my death was an exaggeration". No, Z88 is not about to expire but there the similarity with Mark Twain ends. He was at the time quite old: Z88 has never been more alive and kicking. Yet a correspondent to your magazine and others report lack of product at Dixons. So, you will ask, just what is going on?

The management team in Cambridge has been giving a lot of thought to the marketing of Z88. What is Z88? Where is it going? Where should it be

going? The fruits of that strategic thinking are now beginning to appear. You, as members of the Users' Club, share a common appreciation of the product with us: Z88 is not a toy or a gimmick. Although it's fun, it is a serious, useful, functional portable computer with a unique set of characteristics. This belief led us to think very deeply about the appropriate channels of distribution. We need serious, professional dealers who really understand users needs and who will stock accessories and peripherals. As a consequence, CCL will not from now on focus on sales through high street multiples, but instead through professional dealers. Of course, we already have some such outlets but Roger Flack, our Sales Manager, is busily signing up more distributors to broaden our spread. He has also instituted a new registered dealer list. These are people who commit to hold stock of Z88s and peripherals and who exhibit the necessary enthusiasm and ability. 125 UK dealers have registered thus far and we would like Roy to consider printing this list in a future edition.

So, the distribution channel has undergone change. But that is far from being the only consequence of our strategic thinking. I described Z88 earlier as serious and functional. This led us to focus on some specific functional areas, such as:

- the Apple Macintosh environment. Even Apple executives in Silicon Valley themselves use Z88 and describe it as "a good intelligent peripheral to a Macintosh system". We are very enthusiastic about this area, which is just beginning to take off.
- the corporate environment.
- the education environment. Several exciting trials of the use of Z88 in schools are underway in several different counties.

There will be more such sectors!

If you look at the sectors I mention above, they all have one thing in common: they are all areas which represent a long term commitment by the Company. We definitely see Z88 as a product which deserves to have a long life. That's why we are focussing on such areas. Does this mean that we are focussing on Z88 to the exclusion of new products? Not a bit of it! It has always been my conception that CCL should become a computer company with several products co-existing and growing side by side, each with its own identity and market position. Development work continues apace; a very exciting new product will hit the shops in 1990.

One final word about our market strategy. As I have said, we are striving to

serve serious users through providing a very a very functional system. It follows that the views of our users are of extreme importance. We are entirely committed to working closely with Roy and Z88 EPROM. Roger Flack, a well known and well respected figure in the industry, joined us as Sales Manager in March. I am happy to report that he and Geoff Cooper will become more closely involved in the affairs of the Club than has been the case before. It's your Club and we certainly don't intend to dominate it but Roger and Geoff will be happy to help and to attend any future Workshops.

In summary, we have a strategy that works; Z88 is selling better than ever. We are building our management team and our distribution channels. We have exciting new products under development. And not least we are happy to have an enthusiastic and dedicated group of users. Good luck to all of you for the future!

Queries, Hints and Tips

P.Rawson (0696)

Have you printed how to use a TV or B/W monitor from the Z88? If not, can it be done?

(The Z88 has no suitable interface to drive a monitor. Anything would have to be driven from the serial port, and the circuitry would virtually be another computer, making it very expensive. Another problem is that the software is all configured around the eight line display, so you would still get this letter box display on a monitor - Roy)

Ken Holt (1240)

Is there any way of passing variables computed in a BASIC program to a PipeDream spreadsheet?

Simon Phipps (0221) The following are replies to past queries:

My keymat is also lifting around the centre. It seems to be due to a small locating pin on the underside of the keymat come loose. No solution I'm afraid! Is there an easy way to get a new one?

(No! CCL will not sell spares onto individual users. At the moment I am negotiating for the Club to stock certain spares (certainly keymats and membranes!) and sell these on to members. I'll keep

you posted - Roy)

Cure for broken underline: In headings, use non-breaking space character (diamond space) instead of soft space - this gets printed underlined.

An extensive bug list is available on Telecom Gold from John Crouchley (0986) and we could probably make arrangements for it to be available to other members via the library.

(Perhaps we could serialise it in Z88 EPROM? - Roy)

On the bug list is an explanation of why Michael Finch can't get his CLI to drive Comm88. There is a Z88 'bug' which means that CLI input is treated exactly like keyboard input; consequently, when the input buffer is full, subsequent characters are discarded rather than the CLI waiting for it to become empty before submitting further characters. No fix available, I'm afraid (unless **you** know better!)

Review - Z88 Disc Drive Systems

One of the main drawbacks with the Z88 is that it has no cheap mass storage medium built in. The important word here is of course 'cheap', because the Z88 does have the facility to store files on EPROM cards, but this works out at a cost of almost 40p per 1k of data stored! CCL would make the point that it really depends how important your data is as to whether or not this can be judged expensive. I would make the point that compared to virtually all other forms of storage, EPROM is by far the most expensive.

For those of us lucky enough to have another computer (or two!), there is no problem; we can transfer files from the Z88 and store them on another machine. There are a growing number of people for whom there is no other machine - they rely totally on the Z88 for both working on and storing information.

Wordmongers recognised the need of these people some time ago, and produced Z-Tape, a combination of hardware and software which allows you to store Z88 files on normal cassette tapes. While this works admirably, it is quite slow, and at the end of the day, no matter how sophisticated the software driving the system, it is still a tape storage system, burdened with the speed and reliability problems of all tape-based systems.

What the Z88 has been crying out for has been a proper disc storage system. Why has it taken so long? Possibly because the market is so

uncertain: How many people don't have access to another machine, and how many of these would be willing to pay more than the cost of the machine for a disc system?

In the last issue I mentioned a new disc system from America, made by PCIC. In the last few weeks another product called Disc-88 has become available, based on very much the same technology from a company called XOB in Scotland. In this review I will look at both systems.

The Hardware

Both systems are based around an existing disc drive which is sold by Tandy (made for them in Japan by Brother), for use with their Model 102 and Model 200 portable computers. The drive interfaces to these machines via their RS232 serial port, and here of course is our first encouraging sign for compatibility with the Z88 - since the full expansion port has been blocked off in later Z88s, any drive must use the RS232 port on the Z88.

The drives both came supplied in the original Tandy packaging, consisting of a stout cardboard box and polystyrene inner. For some reason best known to themselves, PCIC had spray painted the outer box blue, to hide any reference to its Tandy origin.

Opening the box you find a manual (six pages for PCIC, nine pages for XOB), a 3.5" Tandy Utility disc (not used, as this contains the DOS for the Tandy computers), and a cable. This cable showed the first difference between the two systems: The XOB drive is supplied with the Tandy cable, with an 8 pin socket for the drive, and a 25 pin D plug for the computer. There is also a very neat 25 pin to 9 pin adapter, which plugs into the Z88. The PCIC drive is supplied with the same cable, but the 25 pin D has been chopped off and replaced with a 9 pin on the same cable.

Removing the polystyrene top from the package reveals the drive itself - a remarkably compact unit (considering that it is self-powered by internal batteries) measuring just over 5" wide, about 6.5" long and just over 2" high (133mm [W] x 163mm [L] x 54mm [H]). The main unit weighs in at about 1lb 14oz (850gms) including batteries.

The drive takes four pence batteries, the same as the Z88, and the manual claims a battery life of 1.5 hours continuous read/write, or about 20 hours in standby. Tandy do sell an approved mains adapter which of course can be used if portable battery usage is not essential.

The drive is cased in cream plastic (presumably to match the Tandy computers) with a black front panel. On the front there is a power switch, a

low battery warning light, a disc eject button, and of course the disc aperture itself. On the rear end is the 8 pin RS232 plug, and a coaxial DC external power socket. (The socket and voltage are the same as the Z88 adapter, but the polarity is opposite.) Underneath the drive is the battery compartment.

The drive uses 3.5" single sided discs, giving a formatted capacity of 202.24 kilobytes. Most disc drives these days are double sided, leading to very wide and cheap availability of double sided discs. Indeed looking through a recent computer mag I could find no single sided discs on offer. You'll be glad to hear that you can use double sided discs, although the drive will still only use one side for recording data. The other factor limited by the drive hardware is the maximum file length. This is fixed on both systems at 64k per file, which for most people would not present any problem.

Also in the lower section of the box was the operating software on a standard 32k Z88 EPROM card. Setting up the hardware for use is simply a matter of joining the disc drive and the Z88 using the cable supplied.

The Software

As I have said, both the PCIP and the XOB software come on 32k EPROM, but neither of them are proper applications. Both actually load into and run from BASIC. The PCIC program is called **ZN-DOS**, and is 2769 bytes long, while the XOB **Disc Manager** is 5632 bytes. This idea of loading into BASIC has both pros and cons: Pros include the fact that it does not take up a Z88 card slot once you have loaded it - useful if you use a lot of other applications and are low on spare slots. The main cons are the fact that you have no MENU or HELP facilities implemented, and a lack of security for the software authors.

Let's take a look at **ZN-DOS** first:

After either CHAINing or LOADing then RUNning ZN-DOS you are presented with the standard BASIC screen, at the top of which is an inverse printed copyright message, and a single line menu as follows:

Bank 0 Directory Format Kill Load Quit Rename Save View

Of these commands, Directory, Format, Load, Quit, Rename and Save are all self explanatory. Kill is the same as erase, but Bank and View need further explanation.

Bank: As I have said, the disc has a capacity of 200k, and this can be

"Z88 REAL POWER COMPUTING"

Is a 178 page, comb bound (flat folding), book, which explains in simple non technical language, simple methods and uses for the Z88 Cambridge Computer. None of the methods or uses described, briefly, as follows, involve the need for any extra software other than that supplied as part of the Z88 Computer, or included as part of the book. The only "program," as such detailed in the book to achieve the following applications, involves less than a hundred characters.

TWO separate METHODS OF MERGING documents (ie letters/reports etc) with your database. The first of these will enable you to achieve a global merge (the same letter/report to all your contacts). The second method allows you to browse through your database sending letters to some of your contacts, but not others. With this second method you can in fact have a SELECTION OF DIFFERENT LETTERS (suitable for accounts chasers), and you can also simply add in individual postscripts for each letter, or embed an individual piece of information in the text (in letters such as:- "I expect to be in your area next week, and expect to call on you on . Please phone myself or Mary at the office if this is not convenient, suggesting a different time." ; you may want to include "Tuesday at 9.30 am" etc).

Address LABELS (and product labels) can be produced with ease using the simple methods described in the book.

A simple method of formatting your display of database into a SCREEN DISPLAY is described, which allows you to use the whole screen to display a record. This obviates the problem of database elements trailing to either side of the screen, and the clutter of other lines / records of information. Records can be called on screen by name or number. Or you can pull all on to the screen in sequence backwards or forwards.

Detailed application examples include LANGUAGE CONVERSION (illustrating text manipulation), CURRENCY CONVERSION (allows conversion of any to any), TRIP CALCULATOR (estimate time of journey, fuel consumption, fuel remaining, and cost, etc), DIET CALCULATOR (estimate calories and costs), INVOICE GENERATOR (also useful for QUOTATIONS).

Other useful information contained in the book "Z88 Real Power Computing" includes an overview of software, with "get you going" advice on Basic programming, Diary, Pipedream (databasing and spreadsheeting), CLI, Filer, Print Editor, Calculator, Etc. And a review of add on products, further sources of information. Much general advice, including problem avoidance, and tips on the rudiments of typing/ keyboarding.

£9.95 Inc P & P

Readers Comments:- T.T of Glasgow, writes "....very interesting and enlightening... valuable explanation and description of the many ways of the Z88" D.T of Dyfed writes "Much better than the other books I have bought on the Z88. As someone who is much more interested in using computers than the understanding of the way they work I found your book very practical and at the right pitch for my needs" A technical advisor for a computer manufacturer, in Cambridge, said in a phone conversation that the book Z88 Real Power Computing, is "full of good ideas and useful information."

Published by:

F. R. Flaig, Dept U2C, 165 Park Avenue, Broadstairs, Kent, CT10 2XL

Z88
REAL
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EPROM SATELLITE SPECIAL

For those of you interested in the CCL Astra reception equipment, we will be publishing a special one-off edition of EPROM totally devoted to this subject.

Topics covered will include:

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This will be available late August. If you would like a copy please send a cheque/P.O. made payable to "Z88 Users' Club" to 68 Wellington Street, Long Eaton, Nottingham. NG10 4NG.

TK

COMPUTERWARE

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GENERAL:	Data Organiser	Harvester	40.00
	Finger Organiser	Harvester	40.00
	Pipedream - Archimedes	Colton	114.00
	Pipedream - PC (3.5"/5.25"d)	Colton	114.00
	Pipedream - PC Spelling Checker	Colton	50.00
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	Wordchip	Harvester	45.00
	Z-Base	Wordmongers	69.00
Z-Tape	Wordmongers	52.50	
BOOKS:	Pipedream	Dabs	15.00
	Z88 Computing	Ian Sinclair	10.00
	Z88 Real Power Computing	F.R. Flaig	12.00
	Z88 Reference Manual	M-Tec	16.00
	Z88 Software Developers Guide	Cambridge Comp.	35.00
	Using your Z88	Patrick Hall	10.00

All prices are in £ sterling and inclusive of VAT @ 15% and UK Mainland delivery by First Class UK post.

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(COURSES EVEN IN AUGUST!)

Back by Popular Demand Z88 Training Day(s) at Milton Keynes

Contact – Vic Gerhardi at Rakewell
on ☎ Milton Keynes (0908) 366009
or Aylesbury (0296) 630617
TODAY

BACK NUMBERS!

Just a reminder that all previous editions of Z88 EPROM are still available - so if you want a software or hardware review just send for the issue that featured the item.

Prices: UK £1.00 each

Europe/Middle East £1.50 each

Elsewhere £2.00 each

Send payment with order to: 68 Wellington
Street, Long Eaton, Nottingham NG10 4NG

Wordmongers Ltd.

21 Edison Rd., Rabans Lane, Aylesbury, Bucks. HP19 3TE

Tel.(0296) 437878. Prestel 029634822. Telecom Gold 84:WOT001

Headline news this edition has good news and bad news.

The bad news is that Del is off to pastures new. We don't know her name but the end result is the same. We are very sad to see him go.

The good news is that THINKz is finished and, dare I say it, debugged. Dealers will have supplies available by the time you receive this newsletter.

For those of you who don't know, THINKz is an outliner product. It provides a hierarchial structure for creating draft documents, essays, story lines and projects.

The basic concept of THINKz is to take a 'broad brush' approach with a list of headings. Each heading, or brush stroke can then be expanded by the addition of further detail based on each previous line of text. In this way the verbal picture becomes more detailed as each level is expanded into a new level below.

The general idea is to provide the opportunity to structure thoughts by descending into a bit more detail at each level. This approach is designed to prevent an author getting too bogged down in any one detailed item before having designed the big picture.

At a more mundane level, its a great 'list' manager.

Output can be to the serial port, to PipeDream plain text or in form for importing into Lotus Agenda.

As a special addition, to while away the midnight hours, we have added a special facility called a 2 octave monophonic tone generator, i.e. it makes the Z88 play something loosely called music.

This hidden facility is not mentioned in the THINKz manual, so as a special offer to Users' Club members we'll be supplying Roy with a brand new Superchip 4, containing all our main products, zBASE, Z-Term, Z-Tape and THINKz as a free upgrade for the first user who correctly writes to him with the required diamond sequence needed to make the music.

For other hackers there is a hidden message in Z-Tape which is not yet common knowledge.

New Bulletin Board. Our own bulletin board was never designed for message swapping between loads of correspondents. To remedy this, we have negotiated space on the Lightfingers BBS with our very own Clive Salvidge as Z88 section editor. Contact Lightfingers on 0202 485723. The setup needed is any speed from 300 to 2400, 8 bits no parity.

For users of the Events Organiser, please note that Wordmongers software does indeed clash because CCL allocated a software reference number twice, once to us and once to them. We understand that they a re-issuing their software with a revised number for those who are suffering from this clash.

More next time. Tony & Clive.

divided between two virtual drives, called Bank 0 and Bank 1. You are allowed up to forty files in each Bank, and each bank has its own directory. If you wanted to save a lot of very small files, your maximum number of 1k files on a disc would be 80 - that is 40 in Bank 0 and 40 in Bank 1.

View: This option allows you to print a file stored on the drive directly to the screen, without first loading it back into the Z88. This can be useful if, for example, you have been sloppy in your choice of file names, and have many files with similar names. Using this View option you can look at the bare content of the file without having to go to the trouble of first loading the file from disc into the Filer, and then into PipeDream.

To the right of the main menu is a display of free space on the disc in Kbytes, and along the bottom of the screen is PCICs address!

Commands are selected by pressing the initial letter, which is printed **BOLD** in the menu. Pressing an invalid key makes the Z88 beep at you. In fact any error in the disc system causes the Z88 to beep at you. It doesn't matter whether the lead has become unplugged, or you have forgotten to put a disc in the drive, all you will get from ZN-DOS is a beep. Because ZN-DOS only operates on files in the current device and directory, you can at any time call the Filer with [J]F to change these.

So there is the appearance of ZN-DOS; before looking at its performance let's consider the other contender in the Z88 disc drive field, XOB's Disc Manager.

After CHAINing into BASIC in the same way, Disc Manager also presents you with its main menu screen. This time, the author has at least gone to some trouble to make the program look like a Z88 application. There are real windows, and commands that are selected by moving a block cursor across them! Seriously, the appearance of Disc Manager is far superior to ZN-DOS. You basically have three windows on the screen: Functions, Status and Workspace. The Functions window shows the set of commands available in a two-across by four-down grid as follows:

```
CAT DELETE SAVE LOAD RENAME FORMA T BANK=0 QUIT
```

The commands can be selected either by pressing the initial letter, then ENTER, or moving a block cursor over the command you want with the cursor keys, and pressing ENTER. Here you can see that the ZN-DOS Kill command has become DELETE (why not 'Erase', since this is used by the Z88 Filer?), and we have lost the rather useful View option.

Below the Functions window is a tiny Status window, which refers to the

status of the last operation carried out, normally displaying "Done. OK". If any errors are generated, these are displayed here. XOB have obviously used the extra size of their program well, because errors are well trapped and identified - if you have forgotten to insert a disc, the status window tells you. No meaningless beeps here!

The third and final window is Workspace, used for displaying catalogues, and where you are prompted for filenames etc. You will notice that I have not mentioned any display of the space remaining on the disc - this is shown after the catalogue display, which incidentally also shows you the size of each file in bytes.

In use, both programs did what was expected of them, and no bugs were noticed.

Performance

Perhaps the most important bit of the review, since this is what you want from a disc system. Below is a list of the commands, together with the time taken to complete them using a test file of length 5377 bytes:

FORMAT: 110 secs CATALOGUE: 2 secs SAVE: 25 secs LOAD: 14 secs (PCIC) or 7 secs (XOB) DELETE: 7 secs RENAME: 2 secs

As you can see, the times are identical except for one big surprise - the XOB drive consistently loaded files in about half the time taken by the other drive. This is apparently because XOB have re-written the LOAD algorithms, and plan to try the same to speed up saving.

As a comparison with other Z88 storage media, the same file saved to EPROM takes about 18 seconds, and of course it loads back almost instantly. Turning to Z-Tape, the same file takes over a minute to save to tape, and about the same to load back.

Conclusion

I must say that the happy coincidence of having two disc systems to review was quite a surprise. Both systems have proved reliable during testing, and will happily store any Z88 file including BASIC programs. The software from XOB certainly has my vote of confidence - the user interface is so much better than the PCIC product. Interestingly enough, although the discs written by the two systems are interchangeable; ie. a file saved on the XOB drive would load on the PCIC drive and vice versa; the physical drives themselves are **not** interchangeable. As the XOB drive is the standard Tandy product, I assume this is due to some hardware

modification carried out on the PCIC drive.

Performance wise, the XOB drive also wins with its much faster loading time.

As regards pricing, the PCIC drive was being sold at the time of writing for £275, although being a U.S. sourced product this is of course subject to the dollar exchange rate. Disc-88 is being launched at £255 (but see the Special Offer on page 8). Yes, this is a lot of money, but a look in the Tandy catalogue will reveal the bare drive costing about £195!

If, for arguments sake, we take a price of £300 spent on storage, this would buy you six 128k EPROMs, or 768k of storage. Discs are available for less than a pound each if you shop around, so the same £300 would buy the disc system plus 50 discs, giving you 10,100k of storage!

Put another way, the cost per kilobyte is about 40p for EPROM, but under 3p per kilobyte with disc, even allowing for the purchase price of the system. The other big advantage is that you have effectively limitless storage, expanded by buying more discs.

If you rely on the Z88 as your sole machine, I would recommend buying a disc system if you have precious files. The two systems on review both suffer the limitation of 200k per disc, and a maximum file size of 64k, so before buying you must decide if either of these constraints would effect you.

PRODUCT: PCIC Portable Disc Drive

PRICE: £275 inc. VAT & carriage

FROM: TK Computerware, Stone Street, North Stanford, Ashford, Kent. TN25 6DF. Tel:0303 812801

PRODUCT: Disc-88 Portable Disc Drive

PRICE: £255 inc. VAT & carriage

(but see Special Offer on page 8)

(For anyone who already has a Tandy Portable Disk Drive 2, XOB will sell just the 25-to-9 pin adapter and software for the Z88. This costs £64.50 inc. VAT & carriage.)

FROM: XOB, Balkeerie, Eassie, By Forfar, Angus. DD8 1SR.

Tel: 0307 84364

BASIC for Beginners Part Two

by Geoff Cooper (CCL)

In this, the second of my series on BASIC for beginners, I shall start by introducing the very powerful facility of BASIC arrays. We shall also use two very useful types of "LOOP" - THE FOR..NEXT and the REPEAT..UNTIL loops.

Suppose the examination marks for a set of students are as follows:

Student %

John 50

Paul 48

Ringo 78

George 92

We might want to find the average mark.

We can enter this set of data into a program as follows: (Remember to type NEW first to clear out any old programs, having saved them first if necessary).

```
5 T=0
10 INPUT JOHN
20 INPUT PAUL
30 INPUT RINGO
40 INPUT GEORGE
50 T=JOHN + PAUL + RINGO + GEORGE
60 T=T/4
70 PRINT "AVERAGE MARK IS",T
```

I hope you can see the problems with this. Suppose we want to use this program for another class? We do not know how many students there will be, nor what their names will be. If there are 20 students there will be 20 new lines to add!

We should write our program as follows:

NEW

```
5 DIM S(9)
```

```
10 C=0
```

```
30 REPEAT
```

```
35 C=C+1
```

```
40 INPUT "NEXT STUDENT PLEASE..",S(C)
```

```
50 UNTIL S(C)=-1
```

I hope you can see the principle. We have created an ARRAY. The first student's mark is held in the variable S(0), the second in S(1) and so on. Line 5 is required to reserve sufficient memory in the machine to hold the marks. Do not attempt to enter more than 10 marks.

The REPEAT UNTIL loop is I think self-explanatory. We use -1 to indicate that there are no more marks to enter, as no student can have a negative mark.

Now let's add the following lines:

```
60 T=0
```

```
70 FOR N=0 TO C-1
```

```
80 T=T+S(N)
```

```
90 NEXT N
```

Let's examine these new lines. Line 50 ensures that T, our total, is initialised to zero.

Lines 70 to 90 introduce a new kind of loop, the "FOR NEXT" loop. The program first sets the variable N to 0, and then carries out line 80 repeatedly, "C-1" times - (remember, the last item of data we entered was simply to end the loop, so we ignore that data item.

Now lets add some more lines:

```
100 PRINT "TOTAL IS ",T
```

```
110 PRINT "AVERAGE IS ",T/N
```

The total, and the average mark, are now displayed.

We can form multi-dimensional arrays, but that is a little too advanced for us at this stage so we'll give that a miss.

VDU CODES

Whilst you digest the above, let's turn our minds to the topic of VDU codes. Try the following (no line number):

VDU 1,66

Remember to press <ENTER> afterwards.

You will see that everything you subsequently type is in bold. To cancel this, just type it again.

Now try the following: VDU 1,70

VDU 1,71

VDU 1,82

VDU 1,84

VDU 1,85

Remember, to cancel any of these, just repeat them.

VDU 7 will give you a "bleep" from the speaker. VDU 12 will clear the display, and so on. Any of these may be incorporated into your programs if required.

ASCII CODES

Characters within the computer are stored as numbers or codes referred to as "ASCII" codes (American Standard Code for Information Interchange).

Try: PRINT ASC("B")

Note the quotations marks "". The computer replies with: 66

We have asked the computer to display the code which it uses to represent "B".

Try: PRINT ASC("C")

The computer replies with: 67. Now try: PRINT ASC("b")

You should get 98. Clearly the computer uses different codes for lower case characters. Try repeating this for other characters and punctuation.

Now try: PRINT CHR\$(66)

This is the reverse process - display the character whose ASCII code is 66.

Note some numbers you may try will produce no result, or some result other than a printable character:

For example, 128, will give you a blank square as will many numbers. 7 will give a bleep from the speaker, and 12 will clear the display.

Remember that when we were using VDU codes, VDU 7 gave a bleep. VDU 12 will clear the display. PRINT CHR\$(66) gave us B. VDU 1,66 gave us Bold. VDU 1,85 will underline. PRINT ASC("U") will give you 85. I hope you can see the connection.

SOFTWARE REVIEW - HARVESTER Z88

DATA ORGANISER

By Ian Braby (0123)

When I first received this package to review I was ready to reject it out-of-hand. However, having played with it a little, it's not all bad!!

The program is a simple database, lacking the sophistication of zBase, but offering some advantages in it's simplicity. It comes on a 32k EPROM which, when inserted often forces a Soft Reset which is what failed to endear it to me initially!

Documentation comprises a 20+ page, EPROM-box sized book which doesn't have an index but is small enough to leaf through for any missing piece of information.

When you boot into the program (with [JO] Harvester's Psion Organiser-based past is evident in the very minimal screen usage and information - no "Topics" or "Help", for example.

What you are presented with, after a very silly noise, is a menu of six choices:

- 1.USE - to set default RAM (doesn't use the default set from the Panel) and select a file to use or create.
- 2.FILES - to Copy, Kill, Rename or Use (see above) a file.
- 3.INFO - should display the number of bytes used in each device but always crashed my machine with a "BAD HANDLE" fatal error!
- 4.SET - to turn on the keyclick and sound (silly noise!).

5.TRANSFER - for connection and data transfer to/from a Psion Organiser or PC also running Harvester Organiser software.

6.QUIT - guess!

Essentially, the way in to the program is from Use which can be selected by pressing "1" or high-lighting the entry.

Having set the default device you are asked for a file name. Entering one which does not exist asks you to confirm that you wish to create a new file and, if you answer in the affirmative, you start creating the database.

This is done by entering a name for a field (the term for an entry in a database, such as Name, Town, etc.) and then to describe it as a string, number, integer, telephone number or lower-case. This choice is offered as: ST NO INT TEL LC - a little unhelpful until you get used to it!

Having described the first field you continue until you have completed all the fields for the record whereupon, after saving this structure, you are taken to the "USE MENU" and you can start filling it in!

The USE MENU comprises six entries similar to the opening menu:

1.FIND - search for a record

2.ADD - a record

3.EDIT - an existing record

4.ORDER - the file on a single field, either ascending or descending

5.STRUCTURE - revise (add new fields) or just view the structure of the records

6.QUIT

If you select "ADD" you enter information a field at a time and, having completed each record you are asked to confirm it is OK by pressing "S" to Save or "E" to edit it, or "Q" to quit.

Having entered a few records you can then put the records into order based on any field, e.g. alphabetical based on name, descending by number, etc..

Now is the time to Find a record. Pressing "F" lets you first choose which field you wish to base the search on and then enter the information you wish to find. Press <ENTER> and off it goes, scrolling the record before your very eyes (you can stop it by pressing any key but you can't alter the

way in which the data is presented on the screen), stopping with a rather enigmatic: F/G/H/I/P/S/V. If you press "H" for Help it will explain that this means: Find (what you're doing!)/Goto (a record number)/Help/Info (crashes - as before)/Print (if a printer is attached)/Search ("What?" you may ask - "What's wrong with Find..?")/View (the same record again).

"Search" from this menu is different from "Find" in a most important respect - namely that you can make selections based on more than one field - something that's not easily done in zBase! In other words you can search for all the "Smith"s with "01-" telephone numbers.

One of the other items from the Use Menu which separates Data Organiser from zBase in terms of ease of use is "Structure" because it is possible to revise an existing record structure and add or delete fields without re-writing the whole database.

Overall?

Well, I have serious reservations about how well beta- tested this product was in terms of the number of rough edges and crashes!

Additionally, this is hardly the most user-friendly piece of software - the Z88's screen is considerably larger than that of the Psion Organiser so menus of the "F/G/H/I/P/S/V"-type should have been expanded to make it seem a little friendlier.

Having said that, however, it is easy to get to grips with, although its' simplicity means there's little to separate it from a PipeDream database, except for being able to do selective, multi-field searches.

At the end of the day - if you need a very simple database use PipeDream; if you need a relational database get zBase; but if don't want to write your own database programs but need more than simple search facilities, consider the Harvester Z88 Data Organiser!

LIBRARY UPDATE

A few new programs for this issue, including a large statistical suite!

But first - a plea!! If you want to have your EPROMs or discs returned to you by Registered Post PLEASE either enclose an envelope into which your Jiffy bag can be put or a fresh Jiffy bag with your name and address written upon it - no labels plus £1.40 and return postage. Failure to meet any of these criteria will result in you getting your EPROM back by First

Class Post only!

I'm sorry if this is a little harsh but I'm tired of the Post Office refusing to accept packages for Registered Post because they are either previously used, have labels or for whatever other reason! I'm tired of queueing in the Post Office, for that matter!

And whilst I'm apologising, from now on requests for lists of the Library programs will cost 50p because it is now some seven pages long. This does include return postage, however.

The Updates:

Z074 LASER-PRINTER DRIVER - (4.5k) by D.Stewart (0529) - this for H-P LaserJets fitted with fount cartridge 92286Y PC Courier 1.

A=Documentation

B=PrinterEd file

Z075 SOUND.BAS by Mark Stevenson (0716)(1k) - who said the Z88 could only beep?

Z076 READABILITY by Colin Impey (0416)(5.5k). By entering the number of syllables in two samples of text from any book, the program is able to assess the age level of the book.

Z077-8 Two BASIC programs by Tim Dieppe (1922)

Z077 CHESSCLOCK.BAS (3k total) - turns the Z88 into a chess clock for both players.

A=documentation

B=program

Z078 EASTER.BAS (1.5k) - can work out when Easter did or will fall for any given year.

Z079 STATISTICAL SUITE (70k total) - a complete suite of 41 programs plus documentation by Dr.Robert Richards (1181) which offers ANOVA, AUC, REGRESSION, t-TESTS and much more. Because of it's size, currently only available on disk!

Z080-1 Two programs by Nick Lewis (2086)

Z080 STRBASE (3k total) - a fast, string-based database.

A=documentation

B=program

C=demo file

Z081 MENU.BAS (9k total) - an efficient Manager which allows execution of BASIC programs and CLI files from within a menu-driven environment. Complete with Hex/ASCII file dump utility and some simple statistics.

A=documentation

B=menu program

C=parameter file

D=statistics program

E=file dump

ANSWERS TO CROSSWORD NUMBER 2

ACROSS:

8.LAPTOP COMPUTERS 9.CLOCK 10.PIPEDREAM 12.ORTHOPAEDIC
13.AGE 15.A LARGE ASSET 18.BIT 19.SPREADSHEET 21.TAILPIECE
22.DIARY 24.PROTOTYPE BEAUTY

DOWN: 1.MALLARD 2.STOCKHOLM 3.APE 4.NOTICE TELEX COPY
5.UPSET INSIDE 6.STORE 7.ARRANGE 11.APPROPRIATE 14.TECHNICAL
16.RIVALRY 17.REDRUTH 20.SLOTS 23.EBB

Small Ads and Swapshop

****WANTED** **CONTACT****

EPROMs! Phone Edward Peters on 0865 310702. Also any users in the Oxford area? Contact me as above or at 69, Victoria Road, Oxford, OX2 7QG.

****WANTED****

Printer suitable for use with the Z88 - serial input. Phone Frank Sharman on Elstead (Surrey) 703643.

****CONTACT****

Maybe your Z88-Spectrum transfer program is better than mine. You may have programs/spreadsheets on technical, scientific or economical matters. (0116 Mr Zawadski?). If you live nearby. If you live in Sweden and have an eraser. Dennis Groning, John Bryntessons, Vag 2, S-662 03 Svanskog, Sweden. Tel: 0532 30587.

****FOR SALE****

Wordmongers zBASE version 1.2 - £50. Front End - £20. Phone Geoff Thorne on 0964 630407.

****WANTED****

Z88 and 128k EPROMs, EPROM eraser & parallel printer cable. Phone W.D. Bircher on 0654 711329 any time.

****CONTACT****

Any Z88 owners in the Luton/Watford area? Please call 0582 584268 evenings and weekends, or write to Dave Grainger, 15 Lamorna Close, Luton, Beds. LU3 2TH.

****ADVENTURE****

The Caves of Oblomov: A 48k adventure game for the Z88. Escape the evil sorcerers dungeon and explore over 100 rooms. Send £5 + 128k EPROM OR £53 to: Jeremy White, 4 Woodlea Place, Alloway, Ayr, Scotland. KA7 4TA.

****FOR SALE****

Z88 Computer - £140 ono. Phone Gerald Distill on Mansfield 756761.

****FOR SALE****

2 x 32k EPROM cards £10 each, 2 x 128k EPROM cards £40 each. Telephone H. Shaw on 0326 40442.

****FOR SALE****

128K EPROMs £40 each. Tel: 0329 284485 (answerphone).

****FOR SALE****

128k RAM £20. 32k RAM £10 or exchange for EPROM, parallel cable or eraser. WHY? Wokingham 790546.

****FOR SALE****

Z88 with 128k RAM, 32k EPROM, mains adaptor, serial cable, in original box with manual. Bought Sept. 1988 for £377. Scarcely used. Will accept £200. Phone Chris on 0749 79282 (Somerset.)

****WANTED****

For private collection - any old Sinclair products up to ZX80. Write to Roy at Club Address on page 2.

****FOR SALE****

Two 128k RAM packs - offers? Kevin on 051 727 0311 (eves) or 051 794 3552 (day) or kpurcell@liv.ibm (JANET)

****FOR SALE****

Z88 Computer, 32k EPROM, mains psu all boxed as new with Club magazines. £210. Phone 0229 40283

STOP PRESS**STOP PRESS**STOP PRESS

LUCKY DRAW WINNERS

As promised in the Editorial, here are the names of the ten winners of the Lucky Draw - picked at random from all the returned Members Surveys:

1. MAURICE BLIGDEN (1680)
2. J. MADGE (1329)
3. MAURICE WALTON (1522)
4. G. NAYLOR (1512)
5. S.G. SUTHERLAND (0881)
6. HOWARD N. BOYD (1370)
7. C. BENEY (1776)
8. M.J. WASS (0841)
9. TERRY RICHTER (1156)
10. F.E. BRADBURY (0213)

NEXT ISSUE OUT MID SEPTEMBER
ALL CONTENTS (C)1989 Z88 USERS' CLUB
ALL TRADEMARKS ACKNOWLEDGED

BINDERS!

By popular demand we are pleased to announce the availability of custom-made Club binders - just the thing to keep your valuable copies of Z88 EPROM together and in pristine condition.

Covered in a durable grey PVC material, with "Z88 EPROM" printed in blue on the spine, and the Users' Club logo on the front, each binder will hold 12 issues of your favourite Z88 magazine.

Prices:

£4.95 (UK) post paid

£6.00 (overseas surface)

Special Offer (UK only)

2 for just £9.00 post paid

Enclose a cheque/P.O. for the correct amount made payable to "Z88 Users' Club", and send to Z88 Users' Club, 68, Wellington Street, Long Eaton, Nottingham. NG10 4NG.

NEW!

Z88 SOFTWARE BY HARVESTER

Harvester Information Systems Limited, manufacturers of the revolutionary software for the Psion Organiser II has produced three new products of the highest professional standard to complement the inbuilt software of the Cambridge Z88 computer. Output from the Harvester Z88 Data Organiser can transfer to the Psion Organiser II and PC.

The Harvester Z88 Data Organiser - Build A Database

Here is a database that is brilliant in its simplicity. Designed to be used by anyone whether a seasoned professional or first time user. Files can be set up almost as fast as they can be typed in using any chosen words. Files, made up of records with a maximum of 16 criteria or fields and 238 characters, can be any length limited only by eprom capacity. Data can be individually cross-referenced using up to 8 different criteria or fields.

The Data Organiser is fully menu driven and will sort text and data on any chosen field, whether alphabetic or numeric. Functions include Edit, Rename, Delete, Save, Find, Copy and Print commands. The transfer and manipulation of data to desktop computer or printer has been simplified to the point that first time users will find it a dream. With a little practice, Z88 users who regularly use a lot of data and need to retrieve facts will find the Harvester Data Organiser invaluable.

"Helpful, uncomplicated and really friendly. Harvester is to be commended for producing such a nice little program. It's all debugged and works perfectly!"

— Tim Woods "PIPELINE" - The U.S.A. Z88 Users Club Magazine.

The Data Organiser is stored on a 32K Reformattable eprom.

Recommended Retail Price £54.99

The Harvester Z88 Finger Organiser - Learn To Touch Type

The inability to type has limited both beginners from getting the best out of their Z88s and also prevented many would-users of word processors from ever purchasing their first computer. The Finger Organiser and the remarkably low cost Z88 should put that right.

The Harvester Finger Organiser is a user friendly, simple and easy to understand series of 10 lessons that teaches beginners how to touch type, eventually leading up to 60 words per minute.

The lessons give training in dexterity and finger/key reflexes on the keyboard that are designed to build up speed and confidence. The on-screen display will record errors and speeds, and sets the user a continuous series of challenges.

The Finger Organiser is stored on a 32K reformattable eprom.

Recommended Retail Price £44.99

The Harvester Z88 Wordchip - Check Your Spelling

Users of the Z88's inbuilt wordprocessor, Pipedream, will welcome this new spell-check system.

The Harvester Wordchip has a fully comprehensive 70,000 wordlist compiled by William Collins Sons & Company Ltd, linguistic technology is supplied Proximity Technology Inc.

Wordchip will correct errors such as case, dot, punctuation and typography, and uses British English rather than the more commonly used American English on this type of product.

The Harvester Wordchip is stored on a 128K reformattable eprom.

Recommended Retail Price £54.99



Harvester Information Systems Ltd.
Head Office and Development Centre:
Unit 1, Ealand Science Park,
Wharf Road, Ealand,
South Humberside. DN17 4JW
TEL: 0724 710222 FAX: 0724 710951